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THE PLANT DISEASE BULLETIN

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THE PLANT DISEASE SURVEY

VOLUME IV NUMBER 3

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BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

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THE PLANT DISEASE SURVEY

Vol. IV Number 3.

More Potato Wart found in Pennsylvania.

The party of potato wart survey men, working in western Pennsylvania under the leadership of W. L. Garis and under the direction of C. R. Orton of State College and the Plant Disease Survey, have discovered new infestations of wart at Robertsdale, Huntingdon County. Robertsdale is near Woodvale, where the disease was located on July 28 of this year, and is about 15 miles from Saxton. In Robertsdale several gardens have been found infested, many of them badly so, as 50-90% of the plants are affected in some cases. The disease has been present in Robertsdale for several years as shown by the prevalence of the disease and the reports of persons raising potatoes.

A number of new infestations have also been found at Thomas, West Virginia and some of them are rather heavy according to a recent report of N. J. Giddings. The disease has not yet been found this year in any new towns in West Virginia.

CEREALS AND FORAGE CROPS

WHEAT

The harvest of winter wheat has been completed under favorable weather conditions, according to Department of Agriculture reports. The yield and quality for the most part proved satisfactory. Black stem rust did not do much damage to the crop as a whole, although in Nebraska late wheat was said to have suffered more than was expected.

Spring wheat harvest is well under way. In the western part of the spring wheat area high temperature and lack of moisture unfavorably affected the crop, while black rust and scab cut the yield and quality markedly in the Dakotas, Minnesota, Iowa and Wisconsin, particularly in the latter planted fields (Nat. Weather and Crop Bul., Aug. 3, 1920).

Stem rust caused by Puccinia graminis.

Winter wheat largely escaped damage from stem rust. The rust was reported from a number of states but it was only in Northeastern

Nebraska and Southeastern West Virginia that any serious damage appears to have been noticed by collaborators.

The spring wheat crop, however, has been very adversely affected. In Wisconsin some late planted fields will hardly yield 1/4 of a crop. In Nebraska about 50% loss in the northeastern part of the state is estimated and many fields are not being cut on account of rust. The Dakotas and Minnesota are also suffering. While it is too early to estimate losses to spring wheat it would seem that this year's outbreak of rust bids fair to equal the epidemic of last season.

Pennsylvania: (Thurston, July 15) Not serious in any part of the state this year. Infections local and no damage reported. Escaped barberry on College farm, but has not been observed rusted.
West Virginia: (Giddings, July 1) Reported as quite prevalent in southeastern part of state. Noted to some extent in Eastern Panhandle, but not so prevalent as in 1919.
Indiana: (Gardner, July 15) Fairly common in small amount late in season. No serious damage reported.
Illinois: (E. C. Stakman) Fifteen to 20% infection at edge of some fields near Peoria. Less than 1% reduction in yield for the locality. Infection much heavier at Galesburg, where the wheat is later and where 2-5% reduction is taking place.
Michigan: (Bessey, Aug. 1) Severe in Upper Peninsula.
Wisconsin: (Vaughan, Aug. 1) Very severe. Noticeably greater amount where any scattering barberry bushes remain. Very early plantings have rpiened ahead of much loss. General estimated reduction in yield 10 to 50%.
South Dakota: (Champlin, July 20) Rust is bad on Marquis wheat (Florence).
Nebraska: (Goss, Aug. 1) Very severe. Many fields not being cut. About 50% loss in the northeastern section of the state.
Arkansas: Common but too late to do any damage.
Idaho: (Hungerford, July 15) Only a trace noted in fields in North Idaho. None noted in the southern part of the state.

Scab (blight) caused by Gibberella saubinettii

Scab has been noticeably much less prevalent than usual in the winter wheat area this year. In some of the spring wheat states, however, it is the cause of considerable trouble but even there it does not seem to be so abundant as last year.

Pennsylvania: (Thurston, July 16) Reported as slight in Armstrong, Adams, and Northumberland Counties. Becoming serious in Franklin County.
West Virginia: (Giddings, July 1) Very little scab in any section of the state. More of it in the Ohio Valley than in the eastern Panhandle. The loss this year is very slight and quite in contrast with the 1919 season. I believe this largely due to different weather conditions when the grain was in bloom.
Tennessee: (C. Kurtzweil, In Cereal Courier, July 10) Wheat scab has been very light this year. The estimated damage is less than one per cent.
Ohio: (Selby, July 15) While we have prolonged rainy periods with much

cloudy, cool weather during the harvest season in Ohio, the scab infection, Fusarium, upon wheat appears much less prevalent than in 1919. It is felt that the greater care in the preparation of seed wheat and attention to screening and seed treatment have been important in this respect.

Indiana: (Gardner, July 15) Relatively small amounts compared with last year.

Wisconsin: (Vaughan, July 15) Less than last year. Traces can be found in nearly every field. Have seen nothing over 3%. There is danger of confusion with joint worm injury which is general.
(Vaughan, Aug. 1) A few scattering heads can be found in most fields. Marquis wheat in southern part of state generally infected 1-2%, except when on corn ground 1919 where 10-15%.

Iowa: (Melhus, Aug. 1) Trace to 70% in winter wheat.

Nebraska: (Goss, Aug. 1) Severe infection around Dakota County. 25-50% of the wheat in this section is infected with scab.

Arkansas: (Elliott, July 1) Not of any importance. Some present.

Leaf rust caused by Puccinia triticina

Leaf rust apparently has not been a factor of any importance in reducing the yield of wheat this year.

Pennsylvania: (Thurston, July 15) Very general over most of the State. Not serious, no damage.

West Virginia: (Giddings, July 1) Very abundant. In practically all sections of the state.

Ohio: (Thomas, July 15) The prevailing rainy weather during the month of June and early July supplied ideal conditions for the spread and development of leaf rust. Practically 100% infection has been noted. All varieties seem to be equally badly attacked.

Indiana: (Gardner, July 15) Very little - came late in the season. Some localities, notably Vincennes, Indiana, occurring in high percentage, but very late.

Wisconsin: (Vaughan, Aug. 1) General along with stem rust. Damage questionable in most cases.

Arkansas: (Elliott, July 1) Common but much lighter than last year.

New Mexico: (Leonian, July 1) More abundant than stem rust, but not serious enough to do any damage.

Idaho: (Hungerford, July 15) Traces in some fields in North Idaho.

Washington: (Heald and Dana, Aug. 1) On early seeded winter wheat at Pullman. Not very severe.

Stinking smut caused by Tilletia laevis and T. tritici

Pennsylvania: (Thurston, July 15) Apparently little in the State. Reported as "slight" and "local" from Northumberland, Cumberland, Blair, Lebanon and Berks Counties.

Virginia: (Fromme, July 1) Very little bunt noticed in western part of State.

Tennessee: (Hesler, July 1) Reports of county agents show an average of 1.7% infection from 17 counties. Much less troublesome than loose smut.

Wisconsin: (Vaughan, Aug. 1) Very much less than usual. Only a few fields with any specimens and then only widely scattering plants. Loss, trace.

Washington: (Heald and Dana, Aug. 1) Prevalent throughout the wheat growing district. Two threshing machine explosions already reported.

Kansas: In Kansas field inspections of Kanred wheat have been made this year for the purpose of locating sources of pure seed of this variety. Inspectors paid particular attention to the presence of varietal mixtures. rye, weeds, and smut. Prof. John H. Parker reported on the presence of bunt in these fields as follows (Cereal Courier 12: 204., July 10, 1920):

"The field inspection of Kanred wheat has been completed. More than 400 fields of Kanred wheat were inspected this year in all parts of the State, representing a total area of between 15,000 and 20,000 acres. In many counties of the State, from a trace to rather high percentages of stinking smut were found. Growers are being urged to treat all Kanred seed to be sown this fall and some of the larger growers in each county will probably treat all of their seed which is to be sold. Such a widespread and severe epidemic of stinking smut in Kansas has not been known for a good many years. It is thought that climatic conditions and late seeding made necessary by dry soil last fall favored the development of smut."

Loose smut caused by Ustilago tritici

Pennsylvania: (Thurston, July 15) Very common and doing more damage than is generally believed. Average loss probably 2%.

West Virginia: (Giddings, July 1) Examination of fields in eastern part of the state show from 3 to 10% in most of them, although some had less than 1%. Hot water treatment as tested in five fields gave absolute control for the treated plots, while the untreated fields showed 1-3% for two of them and 5-6% for two others. The fifth field showed only a trace.

Wisconsin: (Vaughan, Aug. 1) Less than usual. A few heads can be found in most fields. Loss, trace.

Black chaff caused by Bacterium translucens undulosum.

Black chaff has not been reported yet from a number of states where it occurred last year. Persons reporting this disease should make sure to distinguish it from Septoria with which it is easily confused.

Wisconsin: (Vaughan, July 15) Small amount in experiment plots at Madison. None seen or reported in field.

Iowa: (Melhus, July 15) Present on leaves, only trace on heads. Much less than last year.

South Dakota: (Champlin, July 20) Black chaff more pronounced than usual at Florence. Don't know what the damage will be. Rust is bad.

Kansas: (Melchers, July 15) Present in very slight amounts in only a very few fields in the state. No damage whatever occurred.

Glume blotch and leaf spot caused by Septoria spp.

Pennsylvania (Thurston, July 15) In certain localities is quite serious. 50-90% glume spot has been observed on experimental wheat plots at State College.

West Virginia: (Giddings, July 1) Quite prevalent in nearly all wheat fields.

Ohio: (Thomas, July 15) A species of Septoria forming a glume spot seems to be very wide-spread, attacking all varieties noted. In all cases, however, seriously infected heads show bad infestation of the Hessian Fly. To what extent the fungus is responsible for the primary infection cannot be stated. It is thought to be a secondary matter.

Tennessee: (C. Kurtzweil) Septoria on wheat caused some damage on the early wheat and very much damage on the late wheat. Reports of one-hundred per cent infection came from Knox and Miles Counties.

Iowa: (Melhus, Aug. 1) Considerable in winter wheat in rosette stage. None in heads as last year.

Alabama: (Thiel, July 15) Prevalent throughout the state. Infection usually very heavy.

Anthracnose caused by Colletotrichum cereale.

Alabama: (Thiel, July 15) Present in small quantities.

Kentucky: (Valleau, July 1) A considerable amount present on some of the late wheat but appears to be causing very little damage, as it is attacking mostly the outer extremities of the glume.

Ohio: (Selby, July 15) Not so abundant as in 1919. Short stalk forms chiefly referable to attacks of Hessian Fly though anthracnose present chiefly in slight amounts.

Iowa: (Melhus, July 15) Only a trace.

Mildew caused by Erysiphe graminis

Ohio: (Thomas, July 15) Present in increased amounts in cereal variety plots at Ohio Experiment Station. Percentages of stalks with abundant infection of leaves attacked reaching as high as 25% (On winter barley exceeding 90%).

Root rot.

Idaho: (Hungerford, July 15) A root rot from which Fusarium sp. has been isolated has been found in Minidoka County in South Idaho this year.

BARLEY

Covered smut caused by Ustilago hordei

Reports from Vermont and Indiana indicate that this smut is present in about the usual amounts while notes from Ohio, Wisconsin, and Idaho point toward less than normal abundance.

Loose smut caused by Ustilago nuda

Loose smut is reported from Vermont, Ohio, Indiana, Wisconsin, Nebraska and Oklahoma. In all these states the damage is reported as negligible or slight. In most cases the disease is said to be less prevalent than usual. However, Vermont and Indiana report it as being present in about the usual amounts.

Stripe caused by Helminthosporium gramineum

Vermont: (Lutman, August 1) Not observed.
Ohio: (Thomas, August 1) This disease was found in one field where no seed treatment was made.
Indiana: (Gardner, August 1) Present.
Wisconsin: (Vaughan, August 1) Less than for several years. Traces can be found in most fields. One field in Racine County showed 15%.
Tennessee: (Kurtzweil, May 20) Very plentiful in station plots.
Oklahoma: (Learn, August 1) This was only noticed on the College Farm, but there it was present only in small amounts.
Washington: (Heald and Dana, August 1) No reports.
California: (Florell, Plant Introduction Station, Chico, May 14) Traces were observed in a few instances.

Stem rust caused by Puccinia graminis

Stem rust was reported as unimportant in Vermont, Wisconsin, Nebraska and Oklahoma.

Wisconsin: (Vaughan, August 1) General. Losses minor as grain was nearly mature when rust appeared.
Nebraska: (Goss, August 1) Moderate infection, light loss.

Net blotch caused by Helminthosporium teres

Indiana: (Gardner, August 1) Present.
Wisconsin: (Vaughan, August 1) General and often confused with stripe.
California: (Florell, Plant Introduction Station, Chico, May 14) Traces were observed in a few instances.

Spot blotch caused by Helminthosporium sativum

Indiana: (Gardner, August 1) Present.
Wisconsin: (Vaughan, August 1) General. Seedling losses severe in a few cases.
California: (Florell, May 14) Traces were observed in a few instances.

Mildew caused by Erysiphe graminis

Ohio: (Thomas, August 1) Due to prevailing weather conditions. Mildew attacks have been very severe in some sections as is particularly noticeable where the rate of seeding is heavy. Mildew has occasioned more loss than rust.

OATS

Smut caused by Ustilago avenae and U. levis

Delaware: (Manns, July 15) Not so severe as usual.
Virginia: (Fromme, July 15) Winter oats almost a complete failure due to winter killing. Considerable loose smut seen on spring oats in Augusta County, will average about 5%.
West Virginia: (Giddings, July 15) Five to ten per cent of heads affected in untreated fields.
Tennessee: (Hesler, July 15) Both smuts very common this year, with U. levis probably predominating. A 10% loss was frequent.
Kentucky: (Valleau, July 15) About 3% in neighborhood of Lexington.
Mississippi: (Neal, July 1) Smut is present in about the same amount as last year. According to Beal the estimated reduction in yield is about 5% for the state.
Louisiana: (Edgerton, July 15) Both species present. Infection light.
Texas: (Taubenhaus, July 1) Prevalent.
Kansas: (Melchers, July 15) Both common in fields where seed was not treated.
New Mexico: (Leonian, July 15) Slight.
Washington: (Heald & Dana, July 15) U. levis about the same as in previous season.

RYE

Stem rust caused by Puccinia graminis

Stem rust of rye has apparently caused very little damage this year in the states from which it has been reported.

Wisconsin: (Vaughan, July 15) Very slight infection. Traces were found just as fields were ripening. Loss probably 0 to trace. Rye is a heavy crop this year on the light soils in central Wisconsin.
Oklahoma: (Learn, July 15) This crop is not raised to any extent in Oklahoma. No report of rust occurrence has been received, but I found it quite plentiful on the experimental plots on the College Farm.

Leaf rust caused by Puccinia dispersa

Ohio: (Thomas, July 15) All fields show heavy attacks. Weather conditions, as for wheat, have been for the spread and development of leaf rust.
Indiana: (Gardner, July 15). Trace.
Wisconsin: (Vaughan, July 15) Traces only were found.
Kentucky: (Valleau, July 15) Slight. Not causing damage.

Ergot caused by Claviceps purpurea

Ergot seems to have been much less common than usual this year. In some places where it has been prevalent the last few years it is difficult to find any this season.

West Virginia: (Giddings, July 15) Quite prevalent in some experimental fields in Monongalia County.
Indiana: (Gardner, July 15) Rare except in volunteer rye.
Illinois: (Stakman, July) A small amount in several fields.
Michigan: (Coons, August 1) None observed in rye fields. Volunteer plants completely free.
Wisconsin: (Vaughan, July 15) Ergot is found everywhere but in small amounts only, less than ½%. Scattering volunteer plants have more ergot than plants in uniform stand.
North Dakota: (Bolley, July 15) No ergot yet showing. Not yet sufficiently developed to determine the per cent of destruction. Only scattering heads seen.

ALFALFA

Leaf spot caused by Pseudopeziza medicaginis

This disease is reported by J. G. Brown as common in Southern Arizona and severe in the Verde Valley causing a loss which is probably considerable but impossible to estimate because of the prevalence of the bacterial disease (Pseudomonas medicaginis).

Bacterial blight caused by Pseudomonas medicaginis

This disease is reported from New Mexico and Arizona. In the former state L. H. Leonian says it is doing much damage in combination with Ascochyta imperfecta. In Arizona it occurs with Pseudopeziza medicaginis. One field near Tucson had from 40-50% of the plants affected with bacterial blight. This disease is claimed by smelter operators in Arizona to be responsible for many of the complaints of injury from smelter smoke.

Leaf blight caused by Ascochyta imperfecta

Leaf blight and bacterial blight occurring together are reported by L. H. Leonian from New Mexico as follows:

> "The alfalfa stem spot, caused by Pseudomonas medicaginis, is doing much damage here this year. It occurs with Ascochyta imperfecta, and between the two alfalfa does not have much chance. Wilting defoliation and general reduction in the crop are the natural results."

Downy mildew, caused by Peronospora sp., is reported as general but causing slight damage in the Verde and Rillito Valleys in Arizona.

VEGETABLES AND FIELD CROPS

POTATO

Late blight caused by Phytophthora infestans

Since August 1 late blight has been reported to the Survey from Maryland, New Jersey and Vermont. Word from Massachusetts and New Hampshire has been received that the disease has not been reported up to August 1.

In Maryland, C. E. Temple reported having specimens from Frostburg and Grantsville July 21 and 22. It was present at that time in at least four fields, slightly affecting the leaves.

From New Jersey, M. T. Cook reports serious damage as follows, August 13:

> "We have had an exceptionally severe outbreak of late blight on the potatoes throughout the central part of the state, especially in the east central portion. The result is a large amount of rot on the American Giant. We are having excessive rains and if the conditions continue as at present, the losses will be exceptionally heavy."

In Connecticut, potato wart survey men found it prevalent in several gardens about New London.

In Vermont, C. R. Stevenson, pathologist for the Corinna Seed Potato Farms, Inc., Corinna, Maine, reported late blight infection at Rochester, Vermont, on August 4. The disease was scattered in one field infecting 15-20% of the foliage but not causing any particular damage at that time.

Further word has been received from New York that the disease is progressing on the eastern end of Long Island and is affecting many fields there. The outbreak in Oneida, Wisconsin, has been temporarily checked by dry weather (August 1). The more progressive farmers are continuing to spray with the Bordeaux, however.

More reports of the disease have come in from West Virginia, Randolph and Monongalia Counties being added to the list.

Pennsylvania: (Thurston, Aug. 1) Rapidly making its appearance. Reported July 29-31 from Somerset, Carbon, Northampton, Schuylkill, Centre and Luzerne Counties; August 1-7 from Indiana, Westmoreland, Bradford and Wayne Counties. Found only on unsprayed fields or fields where spraying has been neglected. An extensive and intensive spraying campaign put on by Mr. E. L. Nixon and his assistants will greatly reduce loss from late blight.

Early blight caused by Macrosporium solani

Early blight is appearing generally but is not causing appreciable damage as yet.

New Hampshire: (Butler, Aug. 1) Rather scarce, damage done negligible.
Massachusetts: (Krout, Aug. 1) Prevalent throughout the state.
New York: (Chupp, Aug. 1) A trace of early blight may be seen in many potato fields, but no serious cases have been reported.
New Jersey: (Cook, Aug. 1) Very common but no more severe than usual.
Virginia: (Fromme, Aug. 1) Common but not severe.
West Virginia: (Giddings, Aug. 1) Not noted as prevalent or as causing serious injury thus far.
Mississippi: (Neal, Aug. 1) Common in a number of fields this season, but in only one instance has much damage resulted. Adams County reports a loss of 5% in one field.
Michigan: (Coons, Aug. 1) Occasional spots found, not in epidemic form.
Indiana: (Gardner, Aug. 1) More prevalent than last year at this time. Not of serious economic importance in Indiana, however.
Wisconsin: (Vaughan, Aug. 1) Slight amount present; losses probably small.
Minnesota: (Stakman, Aug. 1) Almost universally present, but no appreciable damage has been done with the exception of a few of the southern potato growing counties.
Nebraska: (Goss, Aug. 1) Slight infection.
Idaho: (Hungerford, Aug. 1) A trace of early blight has been found in a number of fields.

Black leg caused by Bacillus phytophthorus

New Hampshire: (Butler, Aug. 1) Present in small amount in the fields of the northern counties, rare in the southern part of the state.
Massachusetts: (Krout, Aug. 1) Occurring in some fields.
Virginia: (Fromme, Aug. 1) Considerable black leg reported from trucking section about Norfolk and Eastern Shore.
West Virginia: (Giddings, Aug. 1) Black leg is again very prevalent in some of the higher sections of Tucker County. It is estimated as affecting from 3-5% of the hills in several large fields visited.
Minnesota: (Stakman, Aug. 1) Common and widespread. Doing considerable damage in some fields. As many as 15% of the plants have been killed in some fields.
Washington: (Heald & Dana, Aug. 1) Two reports.

Mosaic, (cause unknown)

New Hampshire: (Butler, Aug. 1) Very abundant, especially prevalent on Green Mountains.

Vermont: (Lutman, Aug. 1) Fairly common. Many of seed fields show 10-50%. No marked increase noted, however.

Massachusetts: (Krout, Aug. 1) Prevalent throughout the state.

New York: (Chupp, Aug. 1) Mosaic on potatoes was reported first on Long Island June 21, and up-state in Steuben County, June 28. It is one of the most prevalent diseases found on potatoes in the state. (See tabulated reports for 1918 and 1919 for severity and losses in yield).

New Jersey: (Cook, Aug. 1) Very common. Certified seed giving better results than ordinary seed.

Mississippi: (Neal, Aug. 1) Present in many sections of the state, especially on Bliss Triumph. However, the damage does not appear to be as great as last year.

Michigan: (Coons, Aug. 1) Found occasionally. Loss not appreciable.

Wisconsin: (Vaughan, Aug. 1) Hardly a field of Triumph but what will show some plants having mosaic. Fields from the stock of J. W. Smith, Kent, Wisconsin, are remarkably free from mosaic.

Minnesota: (Stakman, Aug. 1) Mosaic is very prevalent and destructive. The disease has occurred mostly on Triumphs. In a number of fields as many as 15% of the plants are severely infected, and in many fields 25-30% of the plants are moderately infected. In some places the Triumphs are practically ruined. In fact growers are beginning to discontinue the growing of this variety on account of the disease. The disease also is fairly prevalent on the Green Mountain variety, but its effect is rather mild as compared with its effect on Triumphs. There is very little mosaic on the Early Ohio, and a trace on the Cobblers.

Kentucky: (Valleau, Aug. 1) Prevalent about Louisville and causing serious reductions in yield except where care has been used in seed selection.

Tennessee: (Hesler, July 15) Forty per cent hills in one garden affected. No special survey made.

Arkansas: (Rosen, Aug. 1) Quite common and abundant in certain seed lots.

Oklahoma: (Learn, Aug. 1) Present in some of the patches about Stillwater.

Nebraska: (Goss, Aug. 1) Considerable mosaic reported from various parts of the state.

Idaho: (Hungerford, Aug. 1) A disease which resembles mosaic but which does not seem to have all the symptoms of the disease as it occurs in the east, is very common in Idaho this year in both North and South Idaho.

Leaf roll (cause unknown)

New Hampshire: (Butler, Aug. 1) Only a few cases have been observed.

Vermont: (Lutman, Aug. 1) Occasional fields throughout the state are affected with 5-25% but on the whole, it does not seem to be as important as mosaic.

Massachusetts: (Krout, Aug. 1) Prevalent in the usual amount.

New Jersey: (Cook, Aug. 1) Much more abundant than usual.

Virginia: (Fromme, Aug. 1) Reported as occurring to some extent in Eastern Shore section together with mosaic, but not at all serious.
Kentucky: (Valleau, Aug. 1) Many small fields of potatoes about Bardstown and in some other sections, grown from northern seed (variety unknown), produced very large vines, the lower leaves of which rolled upward beginning about blossoming time. In place of tuters long stolons were produced which came up as a shoot between the rows and eight inches to one foot from the base of the plant, showing no rolling of the leaves. Produced normal tubers.
Michigan: (Coons, Aug. 1) Some in every field examined.
Minnesota: (Stakman, Aug. 1) Negligible in the principal potato growing sections.
Nebraska: (Goss, Aug. 1) Leaf roll recorded from a few sections along with mosaic diseases.
Idaho: (Hungerford, Aug. 1) Potato leaf roll is quite common in North Idaho this year.

Rhizoctonia disease caused by Corticium vagum solani

Kentucky: (Valleau, Aug. 1) About 15% in fields near Louisville causing rotting of stem or growing point.
Ohio: (Detmers, Aug. 1) Field indications show a widespread infection but on account of the lateness of planting the semi-late potatoes it is too early to estimate the percentage or loss.
Minnesota: (Stakman, Aug. 1) Rhizoctonia has been rather prevalent and destructive. In some fields as many as 25% of the plants were severely infected. During late July many fields were severely affected. Many aerial tubers were being formed and the yield was considerably reduced.
Washington: (Heald & Dana, Aug. 1) Reported from all parts of the state.

Tip burn (non-parasitic), and hopper burn caused by leaf hoppers.

Vermont: (Lutman, Aug. 1) Has been a peculiar year - plenty of rain and cool weather after the rain. The result has been that tip burn is almost non-existent. Very little brilliant sunshine and much cloudy weather has made 1920 so far an ideal potato year.
Michigan: (Coons, Aug. 1) First hopper-burn found July 10. Dead areas rather blotch-like, seldom of typical "V" shape. Loss in early potatoes less than last year. Leaf hopper nymphs exceedingly common on late potato leaves.
Nebraska: (Goss, Aug. 1) Considerable tip-burn found in all potato fields examined in eastern part of the state.
(Weekly Crop Notes, June 24, 1920) The sudden change from cool, wet weather to high temperatures and dry weather has caused some tip burn.

Calico (cause undetermined)

Idaho: (Hungerford, Aug. 1) This disease, which was reported last year from

Idaho, occurs especially in the southern part of the state. The average for the districts visited would be about 1% of the stand.

TOBACCO

Wildfire caused by Bacterium tabacum and Angular leaf spot caused by Bacterium angulatum

Wildfire and angular leaf spot are reported from Virginia and Kentucky. In Virginia wildfire is being found occasionally but is not severe as yet, (August 1). Angular leaf spot is reported as follows from Virginia:

> "Not as severe as in previous years but found to some extent in practically all fields in the flue-cured belt. Found for the first time this year on Burley tobacco in Washington County together with slight Wildfire."

The following report from Kentucky, by W. D. Valleau, is of interest:

> "I wish to report to the Plant Disease Survey the widespread occurrence of wildfire (Bacterium tabacum) and the angular leaf spot (Bacterium angulatum) on tobacco in the Burley and dark tobacco sections of Kentucky. Both of these diseases are causing extensive damage to tobacco in the Burley section. Wildfire has not been reported in the state previous to this year.
>
> "Wildfire was found quite extensively in seed beds last spring killing plants in large areas of beds. Fields planted from such beds are generally infected.
>
> "The origin of the angular leaf spot has not been determined, but it is likely also to have originated in the seed beds."

Root rot caused by Thielavia basicola

Virginia: (Fromme, August 1) Rather severe in several fields in Charlotte County. Occurring in spots of varying sizes. Some plants are badly dwarfed and will not make a crop.

Mosaic (cause undetermined)

Virginia: (Fromme, August 1) Slight; a small percentage of plants affected in occasional fields. Have never seen it in the state as a serious disease.

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